

Title (en)

AUGMENTING PANORAMIC LIDAR RESULTS WITH COLOR

Title (de)

VERSTÄRKUNG VON PANORAMISCHEN LIDAR-ERGEBNISSEN MIT FARBE

Title (fr)

AUGMENTATION DES RÉSULTATS D'UN LIDAR PANORAMIQUE AVEC UNE COULEUR

Publication

**EP 3615961 A1 20200304 (EN)**

Application

**EP 18802367 A 20180515**

Priority

- US 201762506460 P 20170515
- US 2018032811 W 20180515

Abstract (en)

[origin: US2018329066A1] Methods and systems can augment 360 degree panoramic LIDAR results (e.g., from a spinning LIDAR system) with color obtained from color cameras. A color-pixel-lookup table can specify the correspondence between LIDAR pixels (depth/ranging pixels) and color pixels, which may be done at different viewing object distances. The operation of the color cameras can be triggered by the angular positions of the LIDAR system. For example, a color image of a particular camera can be captured when the LIDAR system is at a particular angular position, which can be predetermined based on properties of the cameras (e.g., shutter speed). Alternatively or in addition, a common internal clock can be used to assign timestamps to LIDAR and color pixels as they are captured. The corresponding color pixel(s), e.g., as determined using a color-pixel-lookup table, with the closest timestamp can be used for colorization.

IPC 8 full level

**G01S 7/481** (2006.01); **G01S 17/86** (2020.01); **G01S 17/89** (2020.01); **G01S 17/931** (2020.01); **G06K 9/62** (2006.01); **G06T 19/20** (2011.01); **H04N 13/254** (2018.01)

CPC (source: EP KR US)

**G01S 7/4813** (2013.01 - EP KR US); **G01S 7/497** (2013.01 - EP KR US); **G01S 7/51** (2013.01 - EP KR US); **G01S 17/42** (2013.01 - EP KR US); **G01S 17/86** (2020.01 - EP US); **G01S 17/89** (2013.01 - EP KR US); **G01S 17/931** (2020.01 - EP US); **G06T 7/50** (2017.01 - US); **H04N 23/10** (2023.01 - EP KR US); **H04N 23/698** (2023.01 - KR); **H04N 23/73** (2023.01 - EP KR US); **H04N 23/80** (2023.01 - US); **H04N 23/698** (2023.01 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**US 10809380 B2 20201020**; **US 2018329066 A1 20181115**; CN 110832349 A 20200221; CN 110832349 B 20231010; EP 3615961 A1 20200304; EP 3615961 A4 20210120; EP 3615961 B1 20241002; JP 2020521955 A 20200727; JP 2023022237 A 20230214; JP 7189156 B2 20221213; JP 7534377 B2 20240814; KR 102695911 B1 20240814; KR 20200004840 A 20200114; US 12061261 B2 20240813; US 2021041570 A1 20210211; WO 2018213338 A1 20181122

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